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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* TATSUO NAKAJIMA, ARITO MATSUI,  
TAKASHI NISHIMOTO, GO ITOHYA,  
HAJIME ASAI, and TSUNEO TAKANO

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Appeal 2008-002584  
Application 10/058,064  
Technology Center 3700

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Decided: May 29, 2009

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Before WILLIAM F. PATE III, JOHN C. KERINS, and  
KEN B. BARRETT, Administrative *Patent Judges*.

WILLIAM F. PATE III, *Administrative Patent Judge*.

REMAND TO EXAMINER

## STATEMENT OF CASE

This is an appeal from the final rejection of claims 1-3 and 5-21 and the Examiner's refusal to allow claim 4 as amended after final rejection. These are all of the claims in the application. We have jurisdiction over the appeal pursuant to 35 U.S.C. §§ 134 and 6.

The claimed invention is directed to a power transmission shaft containing a reinforced fiberglass plastic pipe section.

Claims 1 and 7, reproduced below, are further illustrative of the claimed subject matter.

1. A fiber reinforced plastic pipe reduced in thickness and increased in diameter by pultrusion process, comprising a fiber bundle spun and aligned in a longitudinal direction, and circumferential reinforced fiber sheet provided at least either on an outer surface layer or on an inner surface layer thereof.

7. A power transmission shaft comprising a metal joint element and a metal pipe jointed to each other, wherein

the shaft further comprises a fiber reinforced plastic pipe inserted into said metal pipe, said fiber reinforced plastic pipe being reduced in thickness and increased in diameter by pultrusion process, comprising a fiber bundle spun and aligned in a longitudinal direction, and circumferential reinforced fiber sheet provided at least either on an outer surface layer or on an inner surface layer thereof.

## REFERENCES

The references of record relied upon by the examiner as evidence of lack of novelty and obviousness are:

Yates	US 4,171,626	Oct. 23, 1979
Nakajima	US 6,409,606 B1	Jun. 25, 2002

### REJECTIONS

Claims 1, 3 and 6 stand rejected under 35 U.S.C. § 102(b) as anticipated by Yates.

Claims 1-21 stand rejected under 35 U.S.C. § 103 as unpatentable over Nakajima in view of Yates

### PRINCIPLES OF LAW

The patentability of a product does not depend on its method of production. *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985) (*citing In re Pilkington*, 411 F.2d 1345, 1348 (CCPA 1969)). If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *Id* (*citing In re Marosi*, 710 F.2d 799, 803 (Fed. Cir. 1983)); *Johnson & Johnson v. W.L. Gore*, 436 F.Supp. 704, 726 (D. Del. 1977); *see also In re Fessmann*, 489 F.2d 742, 744 (CCPA 1974).

As the CCPA stated in *In re Brown*, 459 F.2d 531 (CCPA 1972):

In order to be patentable, a product must be novel, useful and unobvious. In our law, this is true whether the product is claimed by describing it, or by listing the process steps used to obtain it. This latter type of claim, usually called a product-by-process claim, does not inherently conflict with the second paragraph of 35 U.S.C. 112. That method of claiming is therefore a perfectly acceptable one so long as the claims particularly point out and distinctly claim the product or genus of products for which protection is sought and satisfy the other requirements of the statute. It must be admitted, however, that

the lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith. [Citation omitted.]

In effect the USPTO bears a lesser burden of proof in making out a prima facie case of obviousness in a product-by-process situation because of its peculiar nature. *Fessmann*, 489 F.2d at 744.

We must emphasize that a product-by-process claim is not limited to a claim that merely recites process steps. For example, consider *In re Dike*, 394 F.2d 584, 589 (CCPA 1968) (“Rather, this is a case where the product itself is not patentably distinguished over the prior art, and process limitations cannot impart patentability to it.”) wherein it was held that an article, a “blow-molded”, one-piece bottle, was in the nature of a product-by-process claim. In fact, in that case the CCPA held that the line of flashing formed on the article from the parting line of the two molds could not serve to patentably distinguish over the article from the prior art that was not blow-molded.

“[T]o be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without ‘undue experimentation.’” *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993). Some experimentation, even a considerable amount, is not “undue” if, e.g., it is merely routine, or if the specification provides a reasonable amount of guidance as to the direction in which the experimentation should proceed. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988). Factors to consider include “(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.” *In re Wands*, 858 F.2d at 737.

## ANALYSIS

### *Claim construction*

Appellants’ arguments with respect to the claims on appeal can be summarized in that the cited prior art does not teach or suggest a pipe both subjected to a pultrusion process and containing a fiber bundle that has been spun. App. Br. 8. Appellants further argue that Yates does not teach or suggest “both pultrusion and spinning steps”. *Id.* This argument regarding “steps” is made despite the fact that Appellants’ claims are directed to an article of manufacture, either a plastic pipe or a power transmission shaft.

From the record before us, it does not appear that either the Appellants or the Examiner has construed the claims on appeal as product-by-process claims. We must emphasize that product-by-process claims do not necessarily require the claims to be limited to process steps. Thus the

claim limitation in claim 1, for example, which requires a fiber bundle spun and aligned in a longitudinal direction, might be considered a product-by-process limitation in the construction of the claimed subject matter on appeal. As the case law set out above suggests, the Office's burden in making out a prima facie case of obviousness in a product-by-process situation is lessened because of the peculiar nature of the product-by-process claims. *See Fessmann* at 744. Accordingly, this appeal is remanded to the Examiner for consideration of whether the claims on appeal shall be construed as product-by-process claims. Furthermore, if the claims are construed as product-by-process claims, the Examiner shall make findings and conclusions of law as to whether Yates or Yates in view of Nakajima renders the claimed article prima facie obvious. In such a situation, we remind both Appellant and the Examiner that the burden is shifted to the Appellant to prove that a prior art article is not identical or only slightly different from the product claimed in the product-by-process claims.

*Enablement under 35 U.S.C. § 112, first paragraph*

As noted above, Appellants' argument is that the claimed subject matter differs from the prior art cited in that the presently claimed subject matter is both pultruded and includes a spinning step. We note that Appellants' specification does not include details about the spinning and pultrusion "steps." As a second part of this remand, the Examiner shall determine whether, after reviewing Appellants' disclosure, one of ordinary skill in the art would be able to make and use this pultrusion and spinning method without undue experimentation.

## CONCLUSION

As outlined above, this appeal is remanded to the Examiner for:

a) proper claim construction and the application of the prior art to the properly construed claims, and

b) findings of fact and conclusions of law with respect to the question of enablement under 35 U.S.C. § 112, first paragraph, in view of Appellants' disclosure.

This remand to the Examiner pursuant to 37 CFR § 41.50(a)(1) is made for further consideration of a rejection. Accordingly, 37 CFR § 41.50(a)(2) applies if a Supplemental Examiner's Answer is written in response to this remand by the Board.

This application, by virtue of its "special" status, requires an immediate action. MPEP § 708.01(D) (8th Ed., Rev. 7, July 2008). It is important that the Board be informed promptly of any action affecting the appeal in this case.

## REMANDED

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ARENT FOX LLP  
1050 CONNECTICUT AVENUE, N.W.  
SUITE 400  
WASHINGTON DC 20036